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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/904,663	07/16/2001	Mikio Ohtaki	KAN 120D1	7934

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EXAMINER

HOLLINGTON, JERMELE M

ART UNIT	PAPER NUMBER
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2829

DATE MAILED: 04/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/904,663

Applicant(s)

OHTAKI, MIKIO

Examiner

Jermele M. Hollington

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on July 16, 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/434,490.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/434490, filed on Nov. 5, 1999.

Drawings

2. Figures 29-33 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, plurality of electrodes are ball-type [claims 27, 34 and 41] must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claim 28 is objected to because of the following informalities: it is not clear if "a resist film" is the same as "the resin film." If there are the same, the examiner will like to suggest to change one or the other to have a consistent terminology in the claim. If there are not the same,

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then the limitation "the resin film" in line 8 is insufficient antecedent basis in the claim.

Appropriate correction is required.

5. Applicant is advised that should claim 28 be found allowable, claim 35 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

7. Claims 21-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 21-22, 28-29 and 35-36, it is not clear what is "dividing the wafer into a plurality of semiconductor devices." On page 24, lines 3-4 and page 27 lines 7-8, it states: "The wafer to be measured ... is resin-coated and is ultimately divided into a plurality of CSP devices ..."

For examination purpose, the examiner assumes that any item for wafer cutting could be use to divide the wafer into semiconductor devices.

Regarding claims 27, 34 and 41, it is not clear how "the plurality of electrodes are ball-type." Since these claims depend off of independent claims, it appears the electrodes located on the wafer are ball-type. However, for example page 11 lines 16-32, it describes the electrodes

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(105b) in the film (105) is the ball-type rather than the electrode (201a) on the wafer (201) to be tested.

For examination purpose, the examiner is assuming the plurality of the electrodes in the film are ball-type rather than the electrodes on the wafer.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

9. Claims 21-41 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakata et al (6297658).

Regarding claims 21, 28 and 35, Nakata et al discloses [see fig. 1] a method of manufacturing probe card of a wafer burn-in cassette comprising providing a semiconductor wafer (10) having a plurality of circuit elements [not shown] on a surface [not number but shown in fig. 1] thereof [see column 3 lines 27-30 and column 6 lines 25-26], forming on the wafer surface [not number but shown] a plurality of electrodes (16) connected with the circuit elements [see column 6 lines 30-31], coating the wafer surface with a resin film (represented as probe card 12) [see column 6 lines 27-28], the plurality of electrodes (16) being exposed through the resin film (12) [see fig. 1], inserting the wafer (10) into a burn-in apparatus (represented as burn-in

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cassette), inherently testing the plurality of circuit elements [not shown] for electrical functions in the bur-in apparatus (burn-in cassette) through the plurality of electrodes (16) and inherently dividing the wafer (10) [see fig. 3 with scribe lines dividing each semiconductor device] into the plurality of semiconductor device [not number but shown in fig. 3].

Regarding claims 22, 29 and 36, Nakata inherently discloses dividing the wafer after testing [see fig. 3].

Regarding claims 23, 25, 30, 32, 37 and 39, Nakata discloses mounting the wafer (10) on a circuit board (represented as wiring board 13) with an elastic sheet or film (represented as conductive rubber 21) interposed there between including electrically connecting wiring circuit [nit number but shown in fig. 1] on the circuit board (13) to the electrodes (16) on the wafer (10) through bump electrode (17) in the film (21).

Regarding claims 24, 26, 31, 33, 38 and 40, Nakata discloses disposing over the wafer (10) a holding plate (represented as first sealed member 15 and second sealed member 25) having a through hole (26) and pressing the wafer (10) on the circuit board (13) with the holding plate (15 and 25) [see column 6 line 56- column 7 line 54].

Regarding claims 27, 34 and 41, Nakata discloses the plurality of electrodes (17) are ball-type [see fig. 1].

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yoshizawa et al (5606263), Hamaguchi et al (5821762), Budnatis t al (5896038),

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Nakata et al (5945834), Jitsumori et al (6232791) and Khoury et al (6250933) disclose a method and apparatus for testing a wafer using bump electrodes on bump pads.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jermele M. Hollington whose telephone number is (703) 305-1653. The examiner can normally be reached on M-F (9:00-3:30 EST) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (703) 308-1680. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

J. M. H.
JMH
April 11, 2002

Vinh P. Nguyen
VINH P. NGUYEN
PRIMARY EXAMINER
GROUP 2829
04/12/02

Jermele M. Hollington
Examiner
Art Unit 2829